

The logo for Phoenix-E features a stylized, metallic 'P' with a flame-like top, followed by the text 'Phoenix-E' in a bold, metallic, sans-serif font.

**Phoenix-E**

*"Creating the Better Workplace"*

The text 'PROJECT PROFILES' is rendered in a bold, metallic, sans-serif font, positioned in the upper right quadrant of the cover. The background behind the text is a semi-transparent grid pattern.

**PROJECT  
PROFILES**

The text 'NOISE CONTROL' is rendered in a large, bold, metallic, sans-serif font, positioned in the lower half of the cover. The background behind the text is a semi-transparent grid pattern.

**NOISE  
CONTROL**

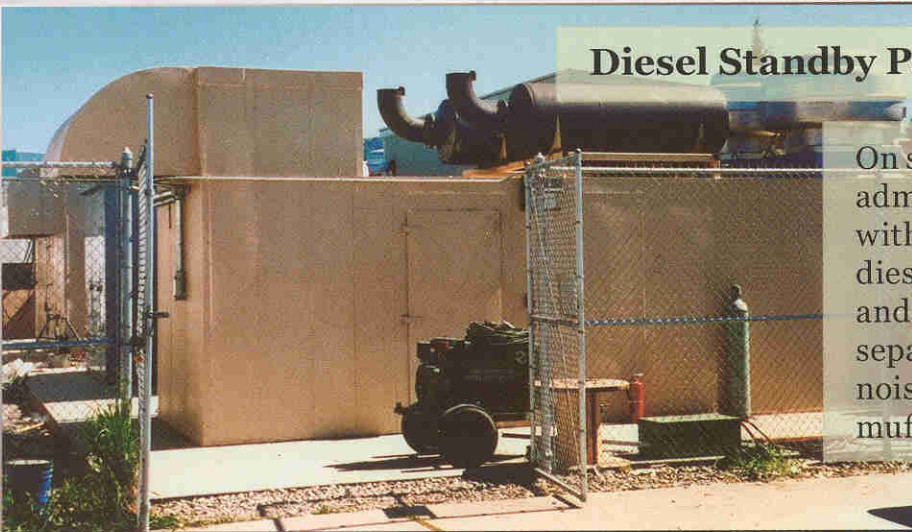
## SonoCon™ Pump Station Enclosures

The acoustical enclosures and their oversized ventilation systems house two pump stations in a quiet residential neighborhood. Heat is removed through standard acoustical silencers. Heavy duty blowers operate in conjunction with a series of temperature controls.



## Diesel Standby Power Generator Enclosure

On site computers located at this plant's administrative offices are provided with backup or emergency power by diesel driven generator sets. Cooling and combustion air is provided by separate blower systems. Combustion noise is reduced by the hospital grade mufflers mounted at engine exhaust.



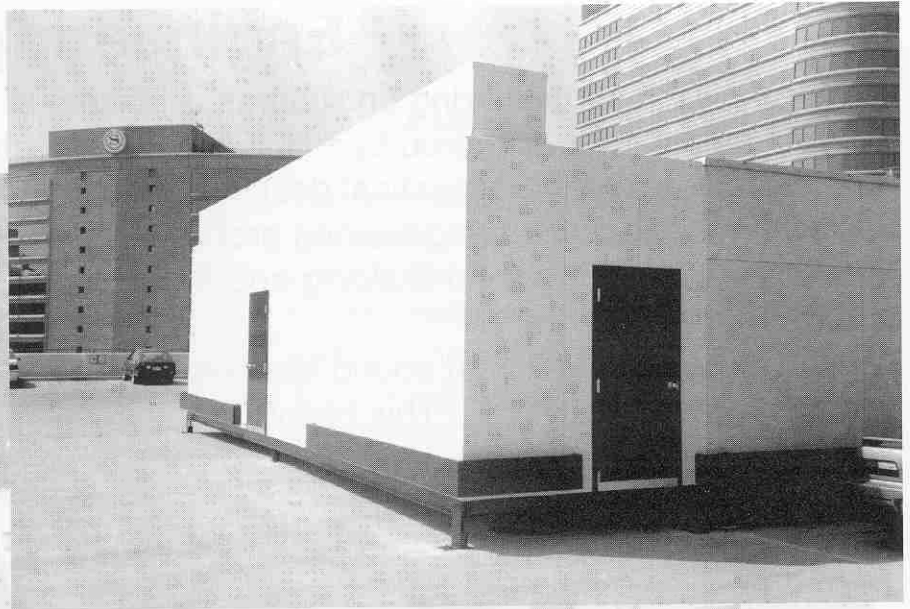
## Acoustical SoftWall Enclosures

Wire braiding machine noise is reduced by track supported, flexible noise barriers. Both clear and acoustically absorptive sliding panels are incorporated. This accessibility to any component on the braider facilitates routine visual inspection and periodic equipment maintenance.



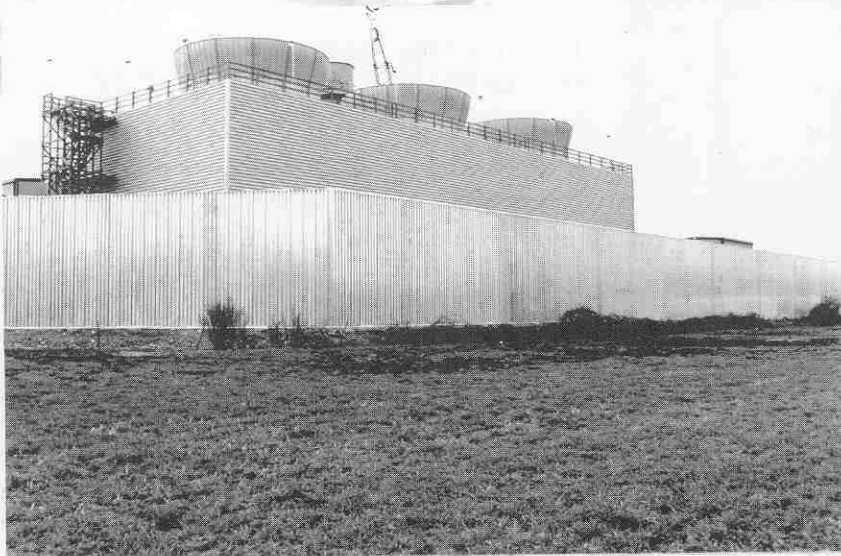
## Chiller Noise Control

Installed on the top deck of a high-rise office building in sight of adjacent apartment structures, the Sono-Con acoustical enclosure was engineered to match the surrounding architecture. Components and coatings were selected based on their resistance to corrosion caused by the ocean environment. The chiller enclosure significantly reduced the noise levels and eliminated community concerns.



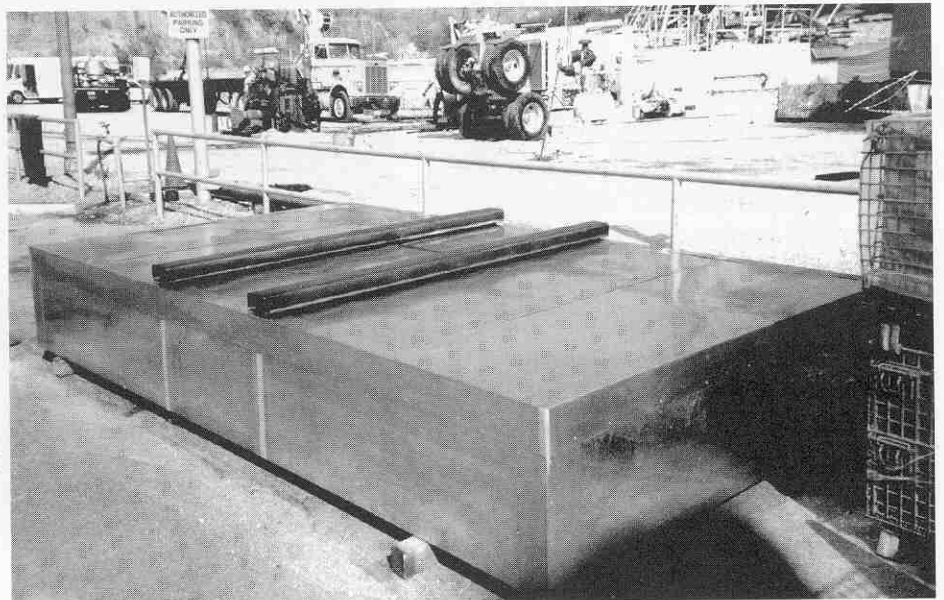
## Cogeneration Plant Soundwall

This plant generates electrical power as a by-product of drying lumber. The freestanding 25'-0" high Sono-Con Soundwall shields the nearby community from plant and equipment noise. Engineered to safely withstand the Code required windloads of 95 MPH with a water table of approximately five feet, the noise barrier easily withstood a series of unexpected severe winter storms with wind speeds in excess of 85 MPH during the final phase of installation. The Class Two Panel System used at this site can be furnished in lengths up to 40'-0" without the use of connectors, special supports, or joining hardware.



## Sono-Con Scuttle Assembly

These large acoustical Sono-Con Scuttle Assemblies contain the noise generated in underground natural gas extraction cellars. The galvanized steel scuttles are acoustically insulated and damped. Units are shipped to the site preassembled complete with forklift pockets for installation and personnel access doors.

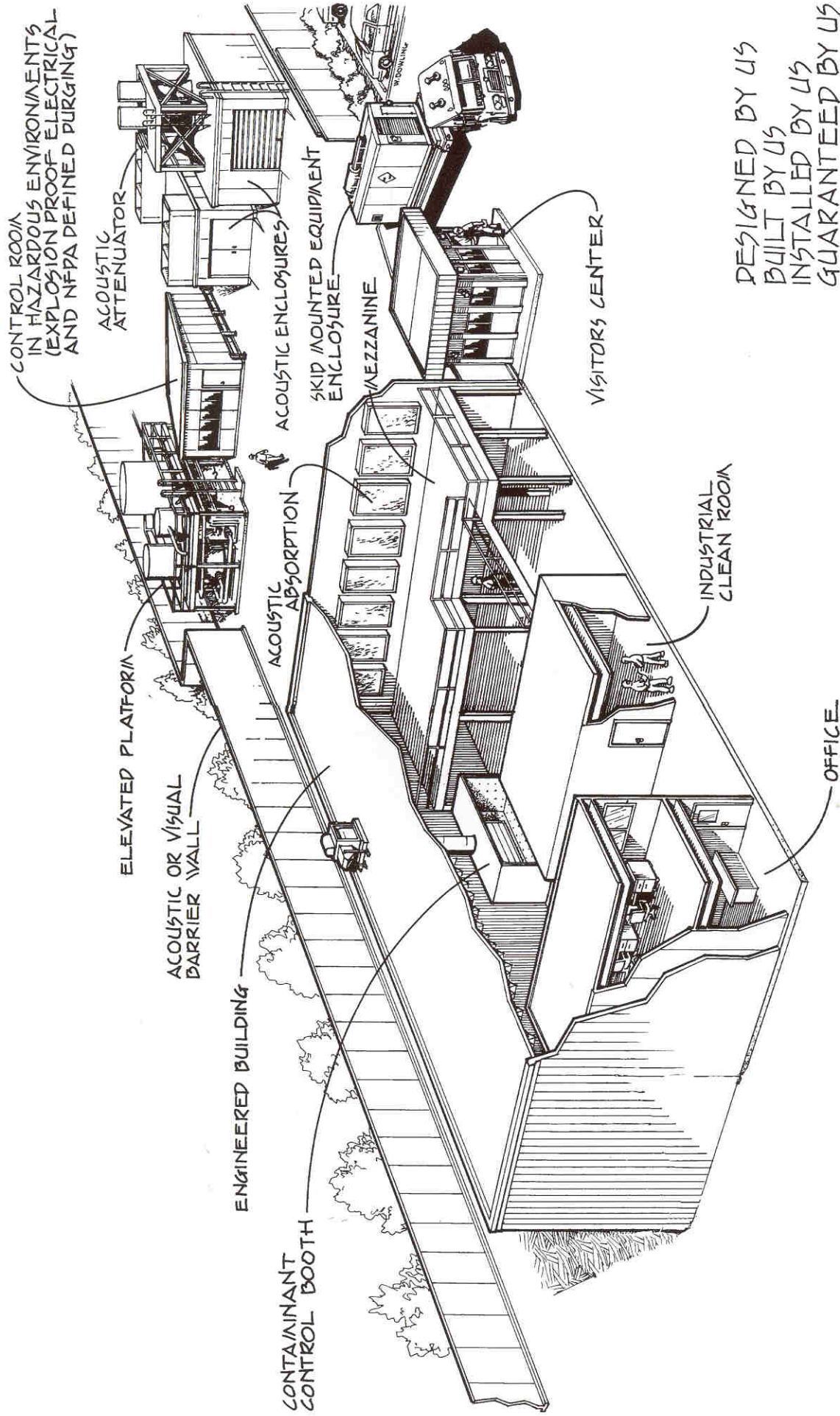


# *Creating the better workplace...*

ACOUSTIC ABSORPTION  
ACOUSTIC CERAMIC PANELS  
ACOUSTIC DOORS AND WINDOWS  
ACOUSTIC TEST CHAMBERS  
AIRCRAFT MAINTENANCE DOCKS  
AIRCRAFT RUN UP SUPPRESSORS  
BLOWDOWN SILENCERS  
BLOWER NOISE CONTROL  
BREAK ROOM  
CLEAN ROOMS  
COGENERATION NOISE CONTROL  
COMMUNITY NOISE CONTROL  
COMPRESSOR ENCLOSURES  
COMPUTER ROOMS  
CONFERENCE ROOMS  
CONTROL ROOMS  
COOLING TOWER NOISE CONTROL  
CURTAIN SYSTEMS  
DUCT SILENCERS  
DYNAMOMETER TEST ROOMS  
ELEVATED OFFICES  
EQUIPMENT ENCLOSURES  
EQUIPMENT PLATFORMS  
EXPLOSION PROOF ELECTRICAL  
FD FAN SILENCERS

FLOATING FLOORS  
FREESTANDING BARRIERS  
GENERATOR ENCLOSURES  
GRINDING STATIONS  
HAZARDOUS MATERIALS STORAGE  
HIGHWAY NOISE BARRIERS  
INDOOR SHOOTING RANGES  
JET ENGINE TEST CELLS  
LABORATORIES  
LASER TEST ROOMS  
LIGHT TIGHT ROOMS  
MAINTENANCE  
MANUFACTURING MEZZANINES  
MUSIC PRACTICE ROOMS  
NFPA X, Y, AND Z PURGING  
NO<sub>x</sub> EMISSION CONTROLS  
OPERABLE WALLS  
PARTICULATE CONTROL  
PERSONNEL TRAINING ROOMS  
PHOTOMETRIC FACILITIES  
PLASMA SPRAY ENCLOSURES  
PLC CONTROL ROOMS  
PLENUMS  
PORTABLE BUILDINGS

PORTABLE NOISE SHELTERS  
PRINTING PRESS NOISE CONTROL  
PUMP ENCLOSURES  
RAILWAY NOISE CONTROL  
RECEIVING FACILITIES  
REFINERY NOISE CONTROL  
RF SHIELDED BUILDINGS  
SANITARY CEILINGS AND WALLS  
SELF FRAMING BUILDINGS  
SEMI CLEAN ROOMS  
SHOP AREAS  
SILENCERS  
SOFTWALL BARRIERS AND ENCLOSURES  
STACK STUFFERS  
STORAGE MEZZANINES  
SUPERVISORIAL OFFICES  
TEMPEST FACILITIES  
TEST CELLS  
TEST LABORATORIES  
THERMAL PANEL SYSTEMS  
TRANSFORMER ENCLOSURES  
TUMBLER ENCLOSURES  
TURBINE GENERATOR ENCLOSURES  
TURBINE PUMP ENCLOSURES  
VIBRATION ISOLATION



DESIGNED BY US  
 BUILT BY US  
 INSTALLED BY US  
 GUARANTEED BY US

# Installation

**P**HOENIX-E's Construction Division completes installations on time in strict accordance with the construction documents. Work is normally accomplished by trained PHOENIX-E erection crews.

Projects have included free-standing acoustical foundations and barriers, cogeneration facilities, quiet control (PLC) rooms, personnel and machinery enclosures for critical environments, standby/peak power generation equipment enclosure systems, jet engine test cells, and buildings and enclosures for H-Occupancies.

Work has been completed for electric gas utilities, refineries, heavy construction firms as well as manufacturing and process plants.

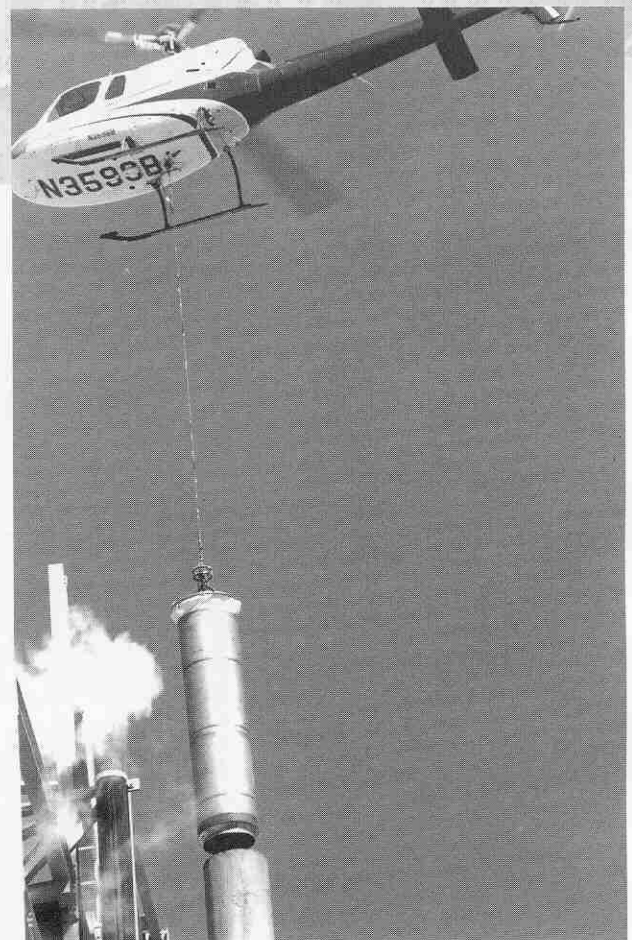


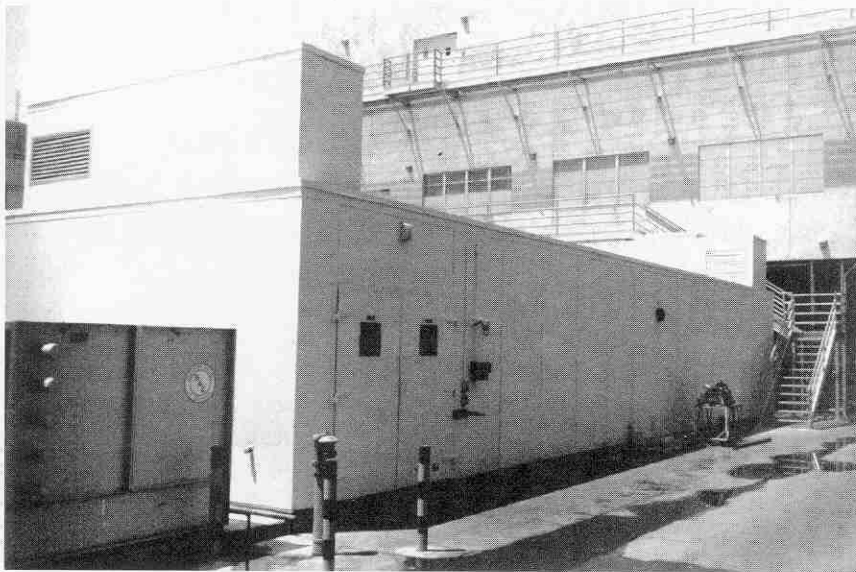
## Sound Absorptive Foam

Reflected noise generated during aircraft pump tests is eliminated by the use of acoustical foam panels installed at critical locations of the test stand. For this application, the acoustical foam is sealed to resist the infiltration of fluids and vapors which are a common part of the test environments.

## Boiler Stack Silencer

A helicopter was needed to install the 4'-0" X 20'-0" long stainless steel silencer within the existing boiler stack. The stack's 135' height and its location made it inaccessible by crane. The Sono-Con silencer is designed to utilize the existing stack shell to minimize weight and cost. Installation was complete in approximately 20 minutes.



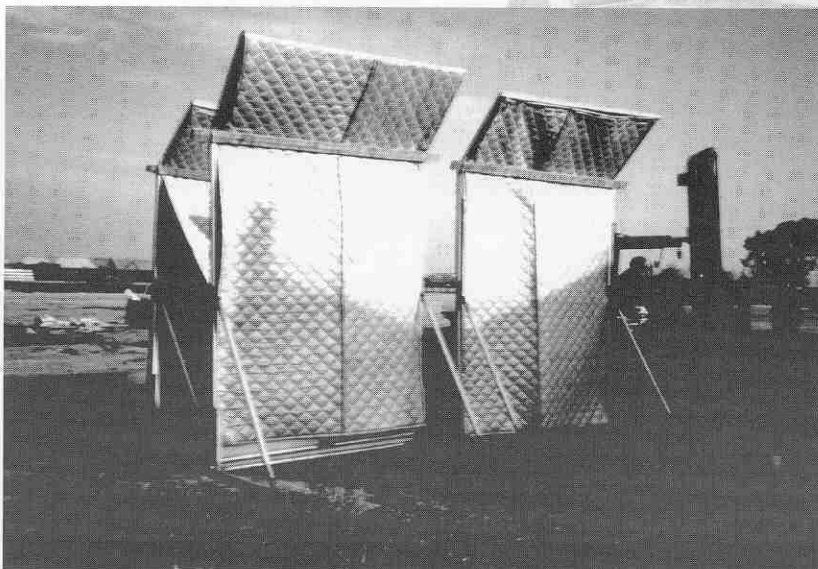
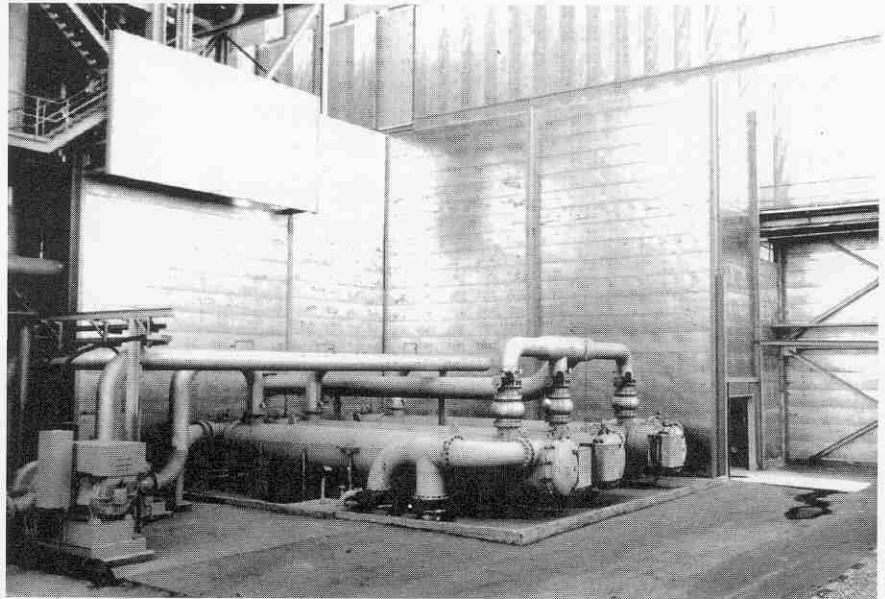


## Sound Attenuating Mechanical Equipment Building

The Sono-Con enclosure houses support equipment and maintenance activity for the adjacent aircraft maintenance and repair hanger. Noise levels are reduced by approximately 35 dBA permitting a normal office routine in the nearby engineering offices.

## Sono-Con Soundwall

Equipment and piping mounted on the steel superstructure is visibly and acoustically concealed from the adjacent community by the 26'-0" high Sono-Con Soundwall. To accommodate safe egress from the tower, the upper portion of the soundwall is cantilevered. The acoustical panels have been installed to absorb most of the incident noise minimizing the amount of energy to reflect back into the equipment tower.



## Portable Acoustical Barriers

Heavy construction, good sound absorption and high transmission loss values are incorporated into the moveable barriers. These are readily positioned to eliminate *hot spots*, prevent equipment noise from reflecting into adjacent areas, and to reduce overall noise levels.

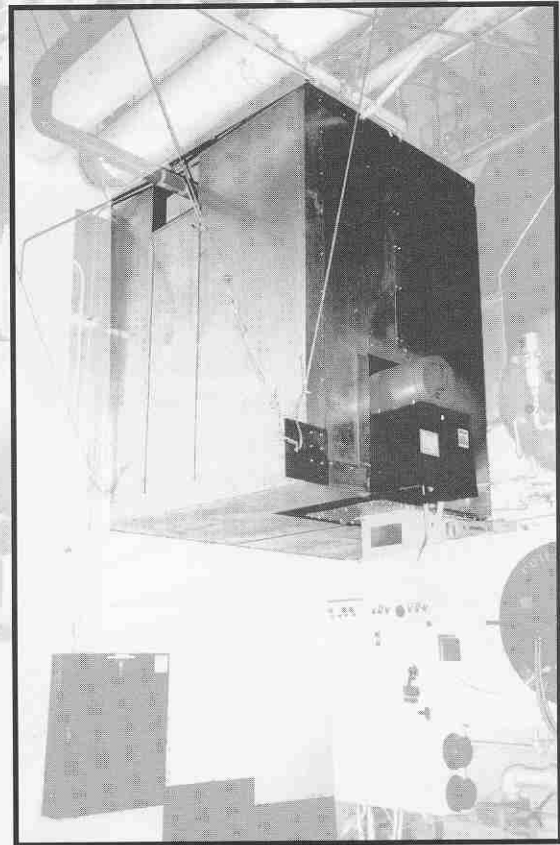
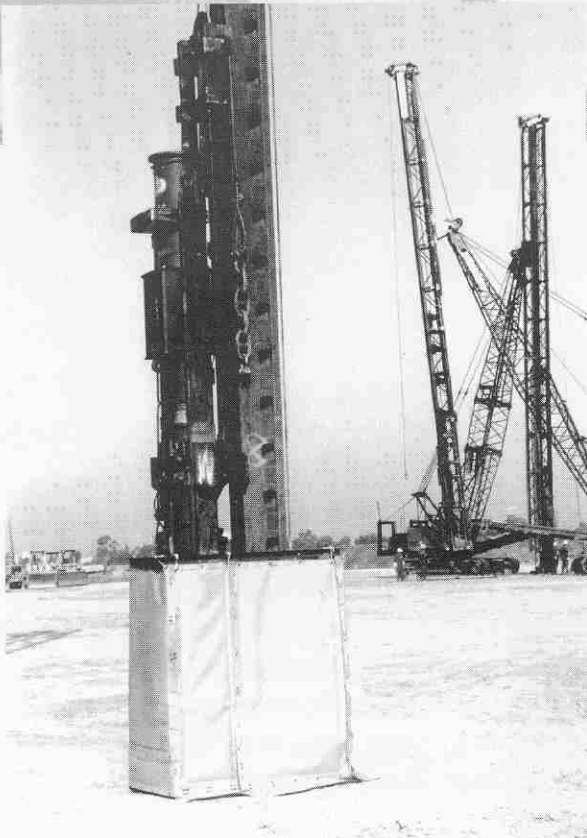
# CONSTRUCTION MANAGEMENT

To provide a complete installation package, PHOENIX-E provides turnkey responsibility for the design and construction of related work, obtaining building permits, coordination with other trades, and interface with customer representatives.

When requested, *fast-track* schedules, where engineering and fabrication are concurrent, can be established as part of the construction management process.

## Pile Driver Noise Control

Semi-Rigid acoustical barriers were installed on *pogo* and *box leads* to reduce the high community noise levels generated when driving foundations for a new above ground storage tank. The support system, as well as the acoustical panels and connections, must be designed to withstand intense shock and vibration.



## Sono-Con Cable Supported Acoustical Enclosure

To reduce the sound levels within a hospital's boiler room, the blowers were encapsulated in roof-supported acoustical enclosures. No floor attached supports were used. Necessary to meet stringent seismic and safety codes, the acoustical enclosure support was redundant and rigged to eliminate any potential movement.



## Acoustical Compressor Enclosures



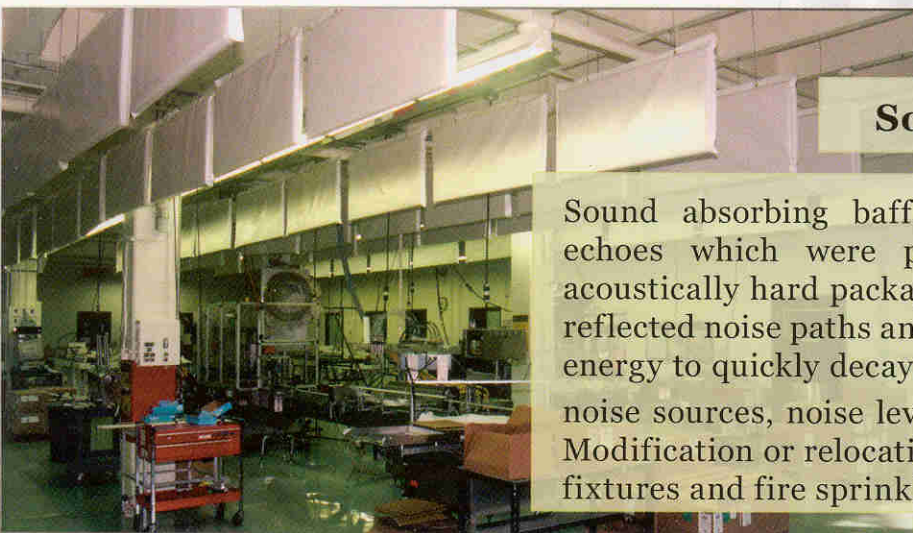
SonoCon™ unitized enclosures are fabricated of galvanized steel acoustical panels. Engineered to protect equipment at remote and harsh environments, the enclosures are relatively lightweight but provide 20 dBA of noise reduction. They are shipped skid mounted as part of the compressors.

## Roof Mounted Acoustical Barrier

SonoCon™ 14'-0" high noise control enclosure is attached to equipment skid which supports noisy air conditioning equipment on the building roof. Barrier provides acoustical privacy for neighboring offices.

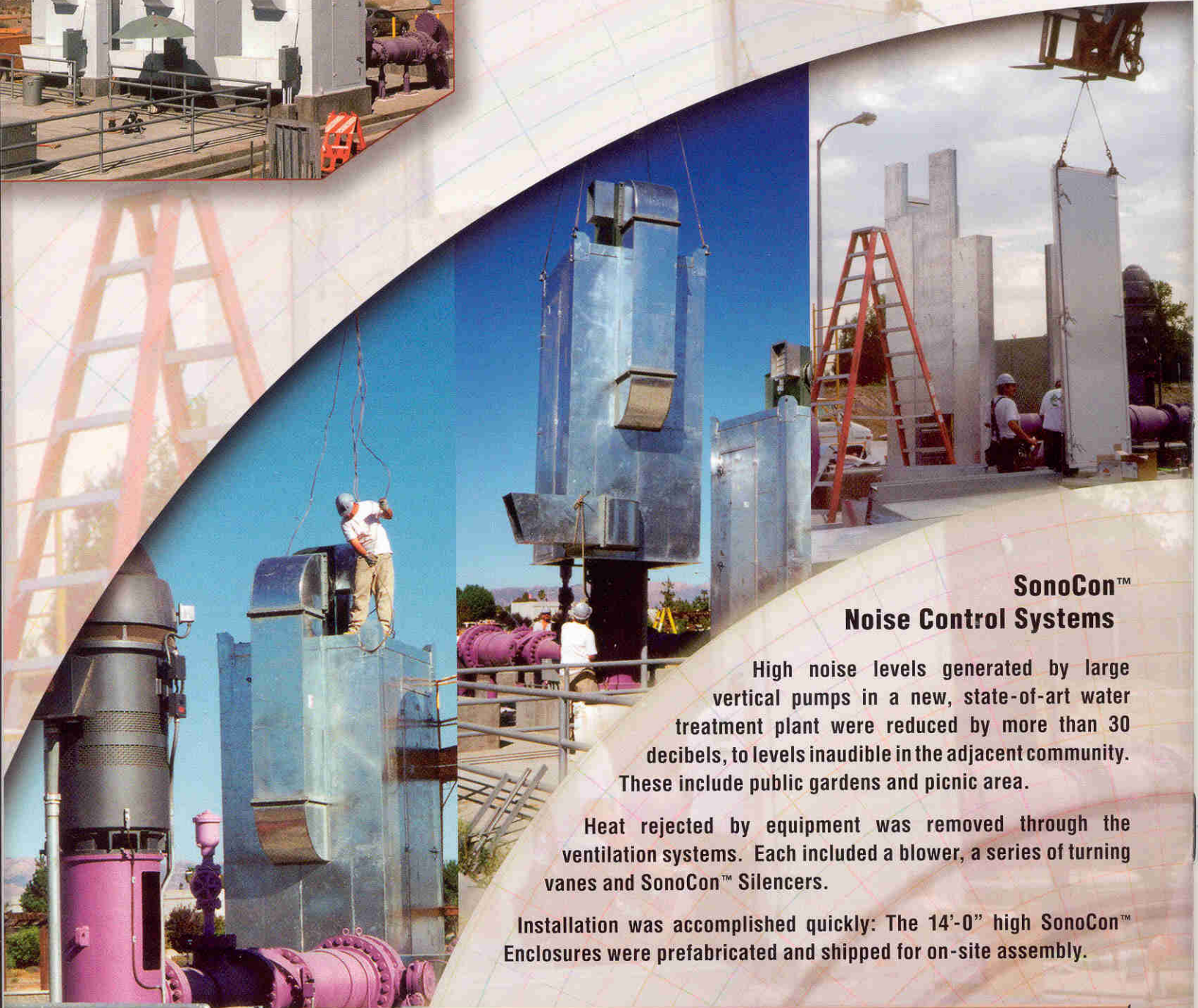


## Sound Absorptive Baffles



Sound absorbing baffles reduce the reverberation or echoes which were prevalent in the antiseptic and acoustically hard packaging areas. The panels reduce the reflected noise paths and provide a place for the acoustical energy to quickly decay. Depending upon proximity to the noise sources, noise levels were reduced by 8 to 12 dBA. Modification or relocation of the existing fluorescent light fixtures and fire sprinklers were not required.

# COMMUNITY NOISE MITIGATION



## **SonoCon™ Noise Control Systems**

High noise levels generated by large vertical pumps in a new, state-of-art water treatment plant were reduced by more than 30 decibels, to levels inaudible in the adjacent community. These include public gardens and picnic area.

Heat rejected by equipment was removed through the ventilation systems. Each included a blower, a series of turning vanes and SonoCon™ Silencers.

Installation was accomplished quickly: The 14'-0" high SonoCon™ Enclosures were prefabricated and shipped for on-site assembly.

  
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